

## **AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

### **LISTING OF CLAIMS:**

1. (currently amended) An information providing system for providing information responding to a retrieval request from a terminal, characterized in comprising:

a database having information, which an information provider provides, and a bid amount of money of said information stored correspondingly;

~~a displaying order deciding means for selecting corresponding pieces of information from said database responding to the retrieval request of information to decide a displaying order of said information based upon the bid amount of money that corresponds to each of these pieces of information; and~~

a selecting means for responding to the retrieval request from the terminal, selecting m pieces of information, which become candidates for n pieces of information being presented to the terminal, from said database;

a displaying order deciding means for:

calculating a sum of bid amounts of money of m pieces of information,

calculating a ratio of each of m pieces of information over said sum of bid amounts of

money of m pieces of information, and deciding information of which a displaying order

is a first rank based upon a probability proportional to magnitude of said ratio of the bid

amount of money of each of m pieces of information;

continuously calculating a sum of bid amounts of money of (m-1) pieces of information except the bid amount of money of the information of which the displaying order is a first rank, calculating a ratio of the bid amount of money of each of (m-1) pieces of information over said sum of bid amounts of money of (m-1) pieces of information, and deciding information of which the displaying order is a second rank based upon a probability proportional to magnitude of said ratio of the bid amount of money of each of (m-1) pieces of information;

said computation is performed until information of which the displaying order is an (n-1)-th rank is decided; and

calculating a sum of bid amounts of money of (m-n+1) pieces of information except the bid amount of money of the information of which the displaying order has been decided, calculating a ratio of the bid amount of money of each of (m-n+1) pieces over said sum of bid amounts of money of (m-n+1) pieces information, deciding information of which the displaying order is an n-th rank based upon a probability proportional to magnitude of said ratio of the bid amount of money of each of (m-n+1) pieces of information, and deciding the displaying order of information ranging from a first rank up to an n-th rank; and

a means for transmitting information to the terminal so that information is displayed in said decided displaying order.

2. (currently amended) The information providing system according to claim 1, ~~characterized in that said displaying order deciding means is configured so as to decide the displaying order of information based upon a probability that is calculated from a ratio of the bid~~

~~amount of money of each selected information over a sum of bid amounts of money of selected pieces of information wherein:~~

~~said information providing system comprises:~~

~~a means for recording the number of times of display of each information in the terminal;~~

~~a means for recording the click number of each information displayed in the terminal; and~~

~~a means for calculating a ratio of the click number to said number of times of display for each selected information; and~~

~~said displaying order deciding means decides the displaying order of information based upon a probability that is calculated from a ratio of the bid amount of money of information over said sum of bid amounts of money and a ratio of the click number to said number of times of display.~~

3. (currently amended) ~~The information providing system according to claim 2, characterized in that:~~

~~said displaying order deciding means comprises:~~

~~a sum of bid amount of money calculating means for acquiring the bid amount of money that correspond to information to calculate a sum of these bid amounts of money;~~

~~a ratio calculating means for calculating a ratio of the bid amount of money of information over said sum of bid amounts of money information by information; and~~

~~a displaying order deciding means for deciding one piece of information, which is displayed, from pieces of information based upon a probability proportional to magnitude of said calculated ratio of each information;~~

~~and~~

~~said displaying order deciding means is configured so that:~~

~~in a case where the number of selected pieces of information is m and the number of display is n, said sum of bid amount of money calculating means calculates a sum of bid amounts of money of m pieces of information, said ratio calculating means calculates a ratio of the bid amount of money of each of m pieces of information, and said displaying order deciding means decides information of which the displaying order is a first rank based upon a probability proportional to magnitude of each of said ratios of m pieces of information;~~

~~continuously, said sum of bid amount of money calculating means calculates a sum of bid amounts of money of (m-1) pieces of information except the bid amount of money of the information decided in said displaying order deciding means, said ratio calculating means calculates a ratio of the bid amount of money of each of (m-1) pieces of information except the bid amount of money of the information decided in said displaying order deciding means, and said displaying order deciding means decides information of which the displaying order is a second rank based upon a probability proportional to magnitude of each of said ratios of (m-1) pieces of information;~~

~~this computation is performed until information of which the displaying order is an (n-1)-th rank is decided; and~~

~~finally, said sum of bid amount of money calculating means calculates a sum of bid amounts of money of (m-n+1) pieces of information except the bid amount of money of the~~

~~information decided in said displaying order deciding means, said ratio calculating means calculates a ratio of the bid amount of money of each of (m-n+1) pieces of information except the information decided in said displaying order deciding means, and said displaying order deciding means decides information of which the displaying order is an n-th rank based upon a probability proportional to magnitude of each of said ratios of (mn+1) pieces of information, thereby allowing the displaying order of information ranging from a first rank up to an n-th rank to be decided~~ An information providing server for providing information responding to a retrieval request from a terminal, comprising:

a selecting means for responding to the retrieval request from the terminal, selecting m pieces of information, which become candidates for n pieces of information being presented to the terminal, from a database having information, which an information provider provides, and a bid amount of money of said information stored correspondingly;

a displaying order deciding means for:

calculating a sum of bid amounts of money of m pieces of information,  
calculating a ratio of each of m pieces of information over said sum of bid amounts of  
money of m pieces of information, and deciding information of which a displaying order  
is a first rank based upon a probability proportional to magnitude of said ratio of the bid  
amount of money of each of m pieces of information;

continuously calculating a sum of bid amounts of money of (m-1) pieces of  
information except the bid amount of money of the information of which the displaying  
order is a first rank, calculating a ratio of the bid amount of money of each of (m-1)  
pieces of information over said sum of bid amounts of money of (m-1) pieces of  
information, and deciding information of which the displaying order is a second rank

based upon a probability proportional to magnitude of said ratio of the bid amount of money of each of (m-1) pieces of information;

said computation is performed until information of which the displaying order is an (n-1)-th rank is decided; and

calculating a sum of bid amounts of money of (m-n+1) pieces of information except the bid amount of money of the information of which the displaying order has been decided, calculating a ratio of the bid amount of money of each of (m-n+1) pieces over said sum of bid amounts of money of (m-n+1) pieces information, deciding information of which the displaying order is an n-th rank based upon a probability proportional to magnitude of said ratio of the bid amount of money of each of (m-n+1) pieces of information, and deciding the displaying order of information ranging from a first rank up to an n-th rank;

and

a means for transmitting information to the terminal SO that information is displayed in said decided displaying order..

4. (currently amended) The information providing system according to ~~one of claim 2 and claim 3, characterized in that~~comprising:

~~said information providing system comprises:~~

a means for recording the number of times of display of each information in the terminal;

a means for recording the click number of each information displayed in the terminal; and

a means for calculating a ratio of the click number to said number of times of display for each selected information; ~~and~~

~~said displaying order deciding means decides the displaying order of information based upon a probability that is calculated from a ratio of the bid amount of money of information over said sum of bid amounts of money and a ratio of the click number to said number of times of display wherein said displaying order deciding means operates so that the displaying order of information is decided based upon a probability that is calculated from a ratio of the bid amount of money of information over said sum of bid amounts of money and a ratio of the click number to said number of times of display.~~

5. (currently amended) ~~A program of an information providing server for providing information responding to a retrieval request from a terminal, characterized in causing said server to function as;~~

~~a displaying order deciding means for, responding to the retrieval request of information, selecting corresponding pieces of information from a database having information, which an information provider provides, and a bid amount of money of said information stored correspondingly to decide the displaying order of said information based upon the bid amount of money that correspond to each of theses pieces of information; and~~

~~a means for transmitting information to the terminal so that information is displayed in said decided displaying order~~ An information providing method of providing information responding to a retrieval request from a terminal, comprising:

a selecting operation of responding to the retrieval request from the terminal, selecting m pieces of information, which become candidates for n pieces of information being presented to the terminal, from a database having information, which an information provider provides, and a bid amount of money of said information stored correspondingly;

a displaying order deciding operation executed by a computer:

calculating a sum of bid amounts of money of  $m$  pieces of information,  
calculating a ratio of each of  $m$  pieces of information over said sum of bid amounts of  
money of  $m$  pieces of information, and deciding information of which a displaying order  
is a first rank based upon a probability proportional to magnitude of said ratio of the bid  
amount of money of each of  $m$  pieces of information;

continuously calculating a sum of bid amounts of money of  $(m-1)$  pieces of  
information except the bid amount of money of the information of which the displaying  
order is a first rank, calculating a ratio of the bid amount of money of each of  $(m-1)$   
pieces of information over said sum of bid amounts of money of  $(m-1)$  pieces of  
information, and deciding information of which the displaying order is a second rank  
based upon a probability proportional to magnitude of said ratio of the bid amount of  
money of each of  $(m-1)$  pieces of information;

said computation is performed until information of which the displaying order is  
an  $(n-1)$ -th rank is decided; and

calculating a sum of bid amounts of money of  $(m-n+1)$  pieces of information  
except the bid amount of money of the information of which the displaying order has  
been decided, calculating a ratio of the bid amount of money of each of  $(m-n+1)$  pieces  
over said sum of bid amounts of money of  $(m-n+1)$  pieces information, deciding  
information of which the displaying order is an  $n$ -th rank based upon a probability  
proportional to magnitude of said ratio of the bid amount of money of each of  $(m-n+1)$   
pieces of information, and deciding the displaying order of information ranging from a  
first rank up to an  $n$ -th rank; and



transmitting information to the terminal so that information is displayed in said decided displaying order.

6. (currently amended) ~~The program according to claim 5, characterized in causing said displaying order deciding means to decide the displaying order of information based upon a probability that is calculated from a ratio of the bid amount of money of each selected information over a sum of bid amounts of money of selected pieces of information~~ The information providing method according to claim 5, comprising:

recording the number of times of display of each information in a terminal and the click number of each information displayed in the terminal; and

deciding the displaying order of information based upon a probability that is calculated from a ratio of the bid amount of money of information over said sum of bid amounts of money and a ratio of the click number to said number of times of display.

7. – 18. (cancelled).

19. (new) An advertisement information publishing system for providing advertisement information responding to a retrieval request from a terminal, comprising:

a database having advertisement information and a bid amount of money of said advertisement information stored correspondingly;

a selecting means for, responding to the retrieval request from the terminal, selecting advertisement information that becomes an object of display from said database;

an advertisement publishing order deciding means for deciding a publishing order of each advertisement information, being an object of display, based upon a probability that is calculated from a ratio of the bid amount of money of each of advertisement information that becomes an object of display over a sum of bid amounts of money of said advertisement information that becomes an object of display; and

a means for transmitting advertisement information to the terminal so that an advertisement is displayed in said decided advertisement publishing order.

20. (new) An advertisement information publishing method of providing advertisement information responding to a retrieval request from a terminal, comprising:

a selecting operation, responding to the retrieval request from the terminal, selecting advertisement information that becomes an object of display from a database having advertisement information and a bid amount of money of said advertisement information stored correspondingly;

an advertisement publishing order deciding operation of deciding a publishing order of each advertisement information, being an object of display, based upon a probability that is calculated from a ratio of the bid amount of money of each of advertisement information that becomes an object of display over a sum of bid amounts of money of said advertisement information that becomes an object of display; and

transmitting advertisement information to the terminal so that an advertisement is displayed in said decided advertisement publishing order.